

Opportunity Title: Microbiology Research Lab Support

Opportunity Reference Code: EPA-NSSC-0005-12

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply Click [HERE](#) to apply.

Description The EPA National Student Services Contract has an immediate opening for a full time Microbiology Research Lab Support position with the Office of Research and Development at the EPA facility in Cincinnati, OH.

The Office of Research and Development at the EPA supports high-quality research to improve the scientific basis for decisions on national environmental issues and help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

What the EPA project is about

The Center for Public Health and Environmental Assessment (CPHEA) provides the science needed to understand the complex interrelationship between people and nature in support of assessments and policy to protect human health and ecological integrity. Within CPHEA, the Public Health and Environmental Systems Division (PHESD) focuses on the interrelationships between people and their environment, promotes human health and well-being, and fosters healthy and safe communities. Personnel within PHESD develop decision frameworks and integrated tools to help communities make better decisions to sustain a healthy society and environment. A research team is working collaboratively with other ORD laboratories to explore health effects, both beneficial and detrimental, associated with environmental exposures, such as living near green spaces or contaminated sites. In addition, this team assesses health risks associated with microbial contamination of public drinking water supplies and recreational water bodies.

What experience and skills will you gain?

As a team member, you will assist the PHESD team with providing technical laboratory support for a research project which uses various biomarkers of health and microbiome analysis in blood, saliva, and stool samples.

Technical laboratory support responsibilities will include assisting with:

- Contributing to preparation of Quality Assurance Project Plan, Standard Operating Procedures, analytical protocols;
- Coordinating receipt and distribution of water, saliva, blood, and stool samples and associated documentation to the appropriate EPA laboratories;
- Processing of samples received, including filtration, centrifugation, and extraction;
- Preparation of microbiological media and supplements for analysis of culturable bacteria;
- Analysis of biomarkers in human samples including antibody responses



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to specific pathogens, and biomarkers of immune, metabolic and neuroendocrine functions using various assay technologies including Enzyme-Linked Immunosorbent Assay (ELISA), kinetic assay, and LuminexTM multiplex suspension assays;

- Nucleic acid extraction and molecular analyses using a variety of commercial kits;
- Analysis of microbiome using molecular techniques such as, but not limited to, reverse transcription (RT) polymerase chain reaction (PCR), quantitative PCR, droplet digital PCR, and targeted gene sequencing;
- Preparation of sequencing libraries for microbial (bacteria and viruses) analysis using a variety of molecular techniques and validated protocols, including DNase treatment, PCR, whole genome amplification, sample barcoding, product clean-up and normalization;
- Maintaining careful and accurate records in designated laboratory notebooks; and
- Maintaining inventory of supplies and preparing lists of supplies to be ordered, as needed.

Communications-related responsibilities will include:

- Participate as a member of a multi-disciplinary research team;
- Interact with EPA scientists and other members of the laboratory team;
- Document experimental and sample collection efforts;
- May be asked to present work performed as a poster at a scientific conference; and
- May be asked to assist with writing a manuscript or report describing the research.

Required Knowledge, Skills, Work Experience, and Education

- Experience with general laboratory safety practices;
- Proficiency of general laboratory techniques, including aseptic and sterile technique;
- Demonstrated experience in microbiological (or related) research;
- Substantial practical experience beyond college course work and demonstrated proficiency in molecular biology research, including experience with DNA/RNA extractions, PCR, RT-PCR, and gel electrophoresis;
- Proficiency with Microsoft Office applications (i.e., Excel, PowerPoint, Word, Outlook);
- Experience with data processing, cleaning, quality controls and basic data analysis techniques, including fitting dose-response curves to serially diluted standards, producing plots and summary tables, checking for out-of-range observations, and manipulating datasets, at a level enabling the applicant to process data with a minimal amount of instruction and guidance from EPA employees;
- Strong communication skills including written, oral, and presentation abilities; and

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- Demonstrated leadership skills and have experience working in a multi-disciplinary team.

Desired Knowledge, Skills, Work Experience, and Education

- Experience with using statistical analysis software, such as SAS or R.

Location: This job will be located EPA's facility in Cincinnati, OH.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of \$31.63 for hours worked.

Hours: Full-time.


Travel: Occasional overnight travel may be required.

Expected start date: The position is full time and expected to begin February 2024. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The contract renews each May through 2025.

For more information, contact EPANSSC@orau.org. Do not contact EPA directly.

- Qualifications**
- Be at least 18 years of age **and**
 - Have earned at least a Master's degree in biology, microbiology, molecular biology, or a related field from an accredited university or college within the last 24 months **and**
 - Be a citizen of the United States of America or a Legal Permanent Resident.

EPA ORD employees, their spouses, and children are not eligible to participate in this program.

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Any degree .
 - **Discipline(s):**
 - **Life Health and Medical Sciences** ([2](#) )

Affirmation I certify that I am at least 18 years of age; a recent graduate with at least a Master's degree in biology, microbiology, molecular biology, or a related field from an accredited university or college within the last 24 months; a citizen or a Legal Permanent Resident of the United States of America; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

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